

Remarks/Arguments

Claims 1-30 are in the case. Claim 18 would be allowed if rewritten in independent form incorporating all of the limitations of the base claim and any intervening claims.

Rejection under 35 USC 103(a)

Claims 1-17 and 19-30 have been rejected under 35 USC 103(a) as being unpatentable over Chromecek et al. 4,655,957, Morpeth et al. 5,125,967, Blackhouse et al. 5,583,091, Nakayabashi et al. 5,879,663, Zhou et al. 6,017,561, or Ghosh 6, 149,927.

In the way of review, the claimed invention is directed to an aqueous emulsion composition resistant to biodeteriogenic microbe contamination comprising a protective colloid stabilized aqueous polymer emulsion combined with a cationic compound selected from the group consisting of a substituted guanidine salt, a polymeric cationic compound, and mixtures thereof, wherein the substituted guanidine salt is substituted with an alkyl, a cycloalkyl, or an aryl group containing 2 to 18 carbons, said cationic compound in an amount effective for preventing biodeteriogenic microbe contamination of said polymer emulsion, said polymer emulsion containing little or no nonionic or anionic surfactants and little or no anionic substituents (claims 1-9). It is also directed to a method of preventing biodeteriogenic microbe contamination in protective colloid stabilized polymer emulsions by combining them with the cationic compounds described above; said polymer emulsion containing little or no nonionic or anionic surfactants and little or no anionic substituents (claims 10-20). Lastly, claims 21 and 22 are directed to adhesive compositions comprising the aqueous polymer emulsion composition of claim 1.

Chromecek et al. was cited as disclosing polymers in col. 2, lines 22-65, water-soluble salts of hexamethylene biguanides, benzalkonium chloride and their concentrations in col. 3, lines 36-47, and polyvinyl alcohol in the Examples. Chromecek et al. disclose a particulate hydrophilic polymer suspension to which one or more appropriate surfactants are added. (col.1, lines 41-44) The surfactants are preferably nonionic.

Chromecek et al. do not teach or suggest the following aspects of the claimed invention:

- a polymer emulsion;
- a protective colloid stabilized polymer emulsion; or
- a protective colloid stabilized polymer emulsion containing little or no nonionic or anionic surfactants and little or no anionic substituents;

There is no teaching or suggestion in Chromecek et al. that would lead a skilled artisan to combine a colloid stabilized polymer emulsion, containing little or no nonionic surfactants, with a cationic compound selected from a substituted guanidine salt and a polymeric cationic compound. In fact Chromecek et al. teaches away from limiting the surfactants to little or no nonionic or anionic surfactants. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Chromecek et al. and the rejection should be withdrawn.

Morpeth et al. was cited as teaching isothiazolinones in col. 3, lines 9-24 and claim 5, polyvinyl alcohol and carboxymethyl cellulose in col. 7, lines 14-15, poly (hexamethylene biguanide) in col.10, line 12 and polymer emulsions in claims 15-16.

Morpeth et al. disclose biocidal composition comprising an isothiazolinone or an isothiazolothione and a substituted urea or a halogen-containing aromatic alkyl sulphoxide or sulphone. Among the many other antimicrobial compounds that can be added to the above biocidal composition is poly hexamethylene biguanide. Morpeth et al. disclose that the biocidal composition can be added to polymer emulsions, but do not teach that the polymer emulsion is colloid stabilized or contains little or no nonionic or anionic surfactants or little or no anionic substituents. In fact, at col. 6, lines 59 to col. 7, line 5, there is a list of several surface active agents that are known to be nonionic; thus teaching away from the claimed invention. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Morpeth et al. and the rejection should be withdrawn.

Blackhouse et al. was cited as reciting isothiazolinones and poly (hexamethylene biguanide) in col. 5, lines 15-26, carboxymethyl cellulose and polyvinyl alcohol in col. 6, lines 4-5 and polymer emulsions in col. 7, line 6.

Blackhouse et al. disclose a synergistic fungicidal composition comprising a halogenated aromatic 1,2- or 1,3-dinitrile; a substituted urea; and a halogen-containing aromatic alkyl sulfoxide or sulphone. The composition may contain a number of other anti-microbial agents such as poly hexamethylene biguanide. Blackhouse et al. do not teach or suggest a colloid-stabilized polymer emulsion containing little or no nonionic or anionic surfactants. In fact, Blackhouse et al. teaches compositions which can contain nonionic surface active agents at 0.1 to 20 wt % (col. 5, lines 49-65), thus teaching away from the claimed invention. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Blackhouse et al. and the rejection should be withdrawn.

Nakabyashi et al. was cited as divulging polyvinyl alcohol in col.4, lines 65-66, polymers in the paragraph col. 6 and 7 and polyhexamethylenebiguanide hydrochloride in col. 12, lines 35-36.

Nakabyashi et al. disclose a dental composition comprising (A) a low molecular weight compound which can produce a precipitate which is hardly soluble in water when it reacts with a calcium compound, (B) a calcium compound and/or (C) an aqueous polymer emulsion (abstract). The polymer emulsions suitable for the dental composition are disclosed at col. 6, line 60 to col. 8, line 61. There is no teaching or suggestion in Nakabyashi et al. of a colloid stabilized polymer emulsion, and many of the polymers listed as suitable for the dental composition contain anionic substituents. These teachings would lead the skilled artisan away from the claimed invention. Also, the appropriate type of surfactants for the polymer emulsions is not disclosed. Nakabyashi et al. disclose a huge number of antiseptic materials that might be added to the dental composition (col. 11, line 42 to col. 12, line 47), many of which would not be cationic compounds. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Nakabyashi et al. and the rejection should be withdrawn.

Zhou et al. was cited as revealing polymers and their concentrations in col. 3, lines 29-60, poly(hexamethylene biguanide hydrochloride) and its concentration in col. 4, lines 1-37 and polyvinyl alcohol and its concentration in col. 4, lines 47-53. and sodium polyacrylate and polyacrylic acid in the examples.

Zhou et al. disclose an antimicrobial cleaning composition that includes (a) a quaternary ammonium compound; (b) an anionic polymer having an acid number greater than 10; (c) a dispersing agent and/or solvent; and (d) water. The dispersing agent is selected from (i) a nonionic polymer, or (ii) a surfactant, or mixtures thereof (col. 4, line 39 to col. 6, line 17). Among the preferred surfactants are nonionic surfactants. Zhou et al. do not teach or suggest a colloid stabilized polymer emulsion containing little or no nonionic or anionic surfactants and little or not anionic substituents. In fact, Zhou et al. teach away from the claimed invention by teaching use of an anionic polymer and the use of nonionic surfactants. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Zhou et al. and the rejection should be withdrawn.

Ghosh was cited as displaying n-alkyl dimethyl benzylammonium chloride, cetyltrimethylammonium chloride, didecyldimethylammonium chloride in col. 3, lines 45-50, isothiazolinones in col. 4, lines 28-40, biocide concentrations in the paragraph overlapping col. 4 and 5, hydroxyethyl cellulose in example 5, and adhesives and latexes in claim 9.

Ghosh discloses solid biocidal compositions containing biocidal compounds that do not rapidly release the biocidal compounds when added to a locus to be protected. Among the huge number of biocides that are listed at col. 2, line 52 to col. 4, line 39, it is possible to identify cationic compounds; however there is no suggestion in Ghosh that a cationic compound should be used or is preferable. In addition, Ghosh does not teach or suggest combining the biocidal compositions with colloid-stabilized polymer emulsions containing little or no nonionic or anionic surfactants or little or no anionic substituents. Ghosh briefly, at col. 5, lines 33-55, indicates that the biocidal compositions can be used in a variety of loci, including adhesives, emulsions and dispersions, but there is no teaching regarding the type or properties of the emulsions. It is therefore submitted that the claimed invention would not have been obvious based on the disclosure of Ghosh and the rejection should be withdrawn.

The Examiner appears to have picked and chosen a few, sometimes insignificant, elements from among a large number of elements in each of the references cited above, in order to support his rejection. It is impermissible within the framework of 35 USC 103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art. (*Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416 (Fed. Cir. 1986)) Looking at each reference cited by the Examiner, as a whole, the invention as recited in claims 1-17 and 19-30 would not have been obvious to person of ordinary skill in the art.

At page 3, last sentence continuing onto page 4, lines 1-3, of the office action, the Examiner stated:

"Whether the polyvinyl alcohol and the hydroxyethyl cellulose are present as protective colloids or thickeners is immaterial as far as patentability is concerned, their presence is what is significant."

Applicants disagree with this statement. The invention is directed to colloid-stabilized polymer emulsions combined with a cationic compound selected from the group consisting of a substituted guanidine salt, a polymeric cationic compound, and mixtures thereof, wherein the substituted guanidine salt is substituted with an alkyl, a cycloalkyl, or an aryl group containing 2 to 18 carbons, wherein the colloid-stabilized polymer emulsion contains little or no nonionic or anionic surfactants and little or no anionic substituents. None of the references disclose or suggest this combination.

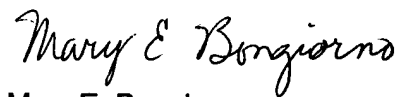
Rejection under 35 USC 112, Second Paragraph

Claims 8 and 17 were rejected under 35 USC 112, second paragraph, as being indefinite because of the recitation of "a polyacrylic" and "a polymethacrylic". Claims 8 and 17 have been amended to cancel "a polyacrylic", "a polymethacrylic" and "a poly(styrene acrylic)". It is believed that this amendment overcomes the 112 rejection.

Appl. No. 09/997,599

Based on the above amendments and remarks, reconsideration of this application and its early allowance is requested.

Respectfully submitted,

A handwritten signature in cursive script that reads "Mary E. Bongiorno".

Mary E. Bongiorno
Agent for Applicants
Registration No. 36,091

7201 Hamilton Boulevard
Allentown, PA 18195-1501
(610) 481-8820